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इस भाग में भिन्न पृष्ठ संख्या दी जाती है जिससे कि यह अलग संकलन के रूप में रखा जा सके।
Separate paging is given to this Part in order that it may be filed as a separate compilation

MINISTRY OF COMMERCE

NOTIFICATION

New Delhi, the 20th September 1965

S.O. 3029.—The following draft of a notification which the Central Government after considering the recommendations of the Export Inspection Council in this behalf, proposes to issue under section 6 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963), is hereby published for general information as required by sub-rule (6) of rule 11 of the Export (Quality Control and Inspection) Rules, 1964. Notice is hereby given that the said draft will be taken into consideration on or after the 20th October, 1965, and that any objection or suggestion with respect to the same received before the aforesaid date will be considered by the Central Government.

Draft Notification

In exercise of the powers conferred by section 6 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963), the Central Government, being of opinion that it is necessary and expedient so to do for the development of the export trade of India hereby—

(1) notifies that the light engineering products specified in Annexure I to this notification shall be subject to quality control and inspection prior to export;

(2) specifies the inspection in accordance with the Export of Light Engineering Products (Inspection) Rules, 1965, as the type of inspection which will be applied to such engineering products prior to their export;

(3) recognises the specifications as set-out in the Annexure II to this notification as the standard specifications for the respective light engineering products aforesaid;

(4) prohibits the export in the course of international trade of the light engineering products aforesaid unless the same is accompanied by a certificate issued by an inspection agency recognised for the purpose under section 7 of the Export (Quality Control and Inspection) Act, 1963 (22 of 1963), to the effect that such light engineering products are export-worthy.

2. Nothing in this notification shall apply to the export of samples of the light engineering products aforesaid to prospective buyers.

3. This notification shall come into force on the 1st November, 1965.

ANNEXURE I

1. Brass Utensils.
2. Pocket Knives.
3. Oil Pressure Stoves.
4. Butchers Knives.
5. Bread Knives.
6. Ghamellas.
7. Carving Knives.
8. Cooks Knives.
9. Mild Steel Buckets for general use.
10. Padlocks.
11. Copper Utensils.
12. Forks (Table, Fish, Pastry and Serving) made of Brass, Nickel Silver and Stainless Steel.
13. Tower Bolts.
14. Oil Pressure Lanterns.
15. Mild Steel Wire Nails.
16. Mild Steel Sliding Door Bolts for use with Padlocks.
17. Umbrellas.
18. Mortice Locks (Vertical type).
19. Scissors.
20. Wire Gauge for general purposes.
21. Table Knives, Dessert Knives and Fruit Knives.
22. Hinges.
23. Spoons made of Stainless Steel, Brass and Nickel Silver.
24. Drawer Locks, Cup-board Locks and Box Locks.
25. Galvanised Steel barbed wire for fencing.

ANNEXURE II

Specification for Brass Utensils

1. Utensils shall be manufactured from Brass sheet or strip which is having bright, clean and smooth surface free from undue discolouration and scratches. The sheet shall also be free from Buckles and Sponginess. Further a test piece taken from a sheet shall meet the following bend test without showing fracture or developments of cracks on the outer surface:

"(a) Hot Bend Test—The test piece shall, when at red heat, be bent through an angle of 180° and hammered close.

(b) Cold Bend Test—The test piece shall, after annealing and when cold, be bent through an angle of 180° with an internal radius equal to the thickness of test piece, the axis of the bend being at right angles to the—direction of rolling."

2. All joints shall be soundly brazed/soldered and a suitable leak test will be carried out on each utensil to ascertain its leakproofness.

3. All joints shall be finished with high degree of smoothness.

4. Thickness of sheet (gauge) to be used for the fabrication of utensils, shape, dimensions and other constructural details shall be subject to agreement between buyer and the seller.

5. All the utensils should be finished smooth and sharp edges rounded off/deburred.

6. Cent percent visual inspection of all the utensils shall be carried out and those having any defect shall be rejected.

7. Utensils may be tinned/plated, if required by the buyer. Tinning/plating in this case shall be smooth and uniform.

8. Utensils shall be packed as per requirements of the buyer. Otherwise they should be packed to ensure safe arrival of the utensils to the destination without any damage.

9. The sample size for inspection and/or test for the abovementioned clauses shall be as given below:

Clause No. of the specification	Sample size	No. of defectives permissible
1	10% of the lot	Nil
2	Cent percent	Nil
3	10% of the lot	Nil
4	Do.	Nil
5	25% of the lot	Nil
7	25% of the lot	3% of the lot.

Specification for pocket Knives

1. The Knives shall be manufactured from suitable quality of steel which shall be able to satisfy the tests given in the subsequent clauses. The handles shall be manufactured from seasoned timber.

2. Shapes and dimensions of knives shall be subject to the agreement between buyer and seller.

3. The knives shall also satisfy the following constructional details:

(a) The blades shall be suitably forged and shall be normalized. The blades shall then be hardened and tempered to give suitable hardness.

(b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper/brass/mild steel rivets.

(c) The handle scales shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall uniformly tapper towards cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and evenly hardened and tempered to attain a hardness within the range of 500—550 DPN (or equivalent in other scales).

5. With the sample knives, selected, six full blows shall be struck from a height of 250 mm on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. Number of knives to be selected for ascertaining the conformity of the lot to the requirements shall be 3% or part thereof, selected at random.

7. The blades shall carry the name of manufacturer, country, etc. etc. Further, the blades shall be coated with a suitable mineral Jelly or varnish to protect from rust. Handle shall be smeared with oil. Each of the knives shall then be wrapped in the paper of suitable quality and packed in cartons as per requirements of the buyer.

8. Each carton containing the knives, shall carry the name of the manufacturer, country, description of the product etc. etc.

Specification for Oil Pressure Stoves

1. The materials used in the manufacture of different parts shall be such that they would ensure safe handling and good performance of stoves throughout their reasonable life.

2. The shape, design and dimensions of the stoves shall be according to the agreement between the buyer and the seller.

3. The stoves shall be so constructed so as to satisfy the following:

(a) It shall be such as to withstand the performance test laid down in the subsequent clauses. Also the container shall be stress relieved after fabrication but before soldering. It shall also be so made as to be firm on its base.

(b) Each fuel container, fitted with pump valve, the burner and fuel cap shall be tested to an internal air pressure of 2·5 kgf/cm^2. It shall not show any design of leakage or deformation.

(c) The stove, both when full of fuel and empty, shall be capable of being tilted in any direction to an angle of 15° from the vertical, without overturning on being released. The mating of threaded components shall be of free class fit.

(d) All metal-to-metal burner joints shall be soundly brazed and the burner shall be such that the fuel jet player centrally and vertically to burner plate. In the case of silencer burner, the holes shall be so spaced so that the flame burns without producing a appreciable hissing noise.

(e) The pump shall be of sound construction and fitted with a non-return valve which shall be leak-proof. The pump washer and the non-return valve shall be removable.

(f) The fuel container shall be fitted with the pressure release screw for releasing the pressure inside the container quickly and safely.

(g) All washers shall be sufficiently resistant to heat and shall not become tacky. These shall be capable of giving leak-proof seal.

(h) The fuel container and other brass parts shall be finished bright. Residues of the flux and similar corrosives shall be removed during manufacture to prevent later corrosion.

4. One container, without burner, taken at random out of a lot of 500 shall be subjected to an internal hydraulic pressure of 10 kgf/cm^2 for a period of 5 minutes. The container shall not show any sign of leakage, or any appreciable deformation. Further, when the container selected above is further subjected to a hydraulic pressure of 14 kgs/cm^2 it shall neither burst or unduly distort. Slight leakage of hydraulic fluid shall, however, be permissible where the pressure is capable of being maintained for a duration of not less than 5 minutes.

5. The surface temperature of any part of the stove that may be necessary to touch during the operation of the appliance shall not exceed 60°C and shall preferably be lower.

6. Instructions for the safe use of the stoves shall be supplied with the stove.

7. Each stove shall be marked with name of the manufacturer, the country of origin, Brand of the stove etc.

8. Each stove shall be packed in a cardboard or in tin box together with

(1) spanner in the case of portable stove,

(2) a packet of three pickers suited to the type of stove,

(3) silencer in case of type B_1 stove,

(4) one washer each for pump, oil filler cap and burner,

(5) funnel.

9. For the purpose of shipment, a number of such boxes depending on the agreement between the seller and buyer shall be packed in a suitable wooden case strapped with iron hoops.

10. Sample size for inspection and/or test for different clauses above shall be as below:

Clause No. of the specification	Sample size	No. of defective permissible
3(c)	one number in a lot of 200 or less.	Nil
3(d)	5% of the lot	Nil
3(e)	Do.	Nil
3(f)	Do.	Nil
3(g)	Do.	Nil
3(h)	10% of the lot	Nil
5	1 in a lot of 500 or less.	Nil

Specification for Butchers Knives

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the tests given in the subsequent clauses. The handles shall be manufactured from seasoned timber.

2. Shapes and dimensions of knives shall be subject to agreement between buyer and seller. (The most common types of knives are, Flaying (large & small), cutting knives and sticking knives).

3. The knives shall also satisfy the following constructional details:

(a) The blades shall be suitably forged and shall be normalized. The blades shall then be hardened and tempered to give suitable hardness.

(b) Tangs shall be well drawn out and the scales shall fit closely to the tang through out its length and shall be secured by means of copper/brass/mild steel rivets.

(c) The handle scales shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall uniformly tapper towards cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and evenly hardened and tempered to attain a hardness within the range of six hundred to seven hundred DPN (or its equivalent in other scales).

5. With the sample knives, selected, six full blows shall be struck from a height of 250 mm on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades of flaying and cutting knives shall also be flexible enough so that they do not show any permanent set or damages in usage.

6. Number of knives to be selected for ascertaining the conformity of the lot to the requirements shall be 3% or part thereof, selected at random.

7. The blades shall carry the name of manufacturer, country, etc. etc. Further, the blades shall be coated with a suitable mineral Jelly or varnish to protect from rust. Handle shall be smeared with oil. Each of the knives shall then be wrapped in paper of a suitable quality and packed in cartons as per requirements of the buyer.

9. Each carton shall bear the manufacturer's name or trade-mark, description of the contents and the number of knives it contains.

Specification for Bread Knives

1. The Knives shall be manufactured from suitable quality of steel which shall be able to satisfy the tests given in the subsequent clauses. The handles shall be manufactured from seasoned timber.

2. Shapes and dimensions of knives shall be subject to the agreement between buyer and seller.

3. The knives shall also satisfy the following constructional details:

(a) The blades shall be suitably forged and shall be normalized. The blades shall then be hardened and tempered to give suitable hardness.

(b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper/brass/ mild steel rivets.

(c) The handle scales shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall uniformly tapper towards cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and evenly hardened and tempered to attain a hardness within the range of 450—550 DPN (or its equivalent in other scales).

5. With the sample knives, selected, six full blows shall be struck from a height of 250 mm on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades shall also be flexible enough so that they do not show any sign or damage of permanent set in usage.

7. Number of knives to be selected for ascertaining the conformity of the lot to the requirements shall be 3% or part thereof, selected at random.

8 The blades shall carry the name of manufacturer, country, etc. etc. Further the blades shall be coated with a suitable mineral Jelly or varnish to protect from rust. Handle shall be smeared with oil. Each of the knives shall then be wrapped in paper of suitable quality and packed in cartons as per requirements of the buyer.

9. Each carton containing the knives, shall carry the name of manufacturer, country, description of product etc. etc.

Specification for Ghamellas

1. Ghamellas shall be manufactured from Mild Steel Sheets, capable of withstanding the following test:

'Suitable test pieces shall not break or develop cracks if doubled over when cold either by pressure or blows from a hammer until the internal radius is equal to the thickness or dia of the test piece and the sides are parallel'.

2. The thickness of steel (gauge) to be used for the manufacture of Ghamellas and other constructional details shall be subject to the agreement between the buyer and the seller.

3. The shape and dimensions of the Ghamellas shall be as agreed to between the buyer and the seller.

4. All parts of the Ghamellas shall be finished smooth and sharp edges rounded off. The Ghamellas shall be free from all constructional defects.

5. The No. of Ghamellas to be selected for inspection from the lot shall depend upon the size of the lot and shall be in accordance with column 1 and 2 of Table below:

Lot size	No. of Ghamellas to be selected	Permissible No. of defectives
Upto 200	15	1
201 to 300	20	2
301 to 500	30	3
501 to 800	40	3
801 and above	55	4

6. The Ghamellas shall be given a suitable preservation treatment for protection against rust.

7. The Ghamellas shall be packed in bundles, as per the agreement arrived upon between the buyer and the seller. Each Ghamella shall carry the name of the manufacturer, country of origin, size etc.

Specification for Carving Knives

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the tests given in the subsequent clauses. The handles shall be manufactured from seasoned timber.

2. Shapes and dimensions of knives shall be subject to agreement between buyer and seller.

3. The knives shall also satisfy the following constructional details:

(a) The blades shall be suitably forged and shall be normalized. The blades shall then be hardened and tempered to give suitable hardness.

(b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper/brass/ mild steel rivets.

(c) The handle scale shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall uniformly tapper towards cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and evenly hardened and tempered to attain a hardness within the range of six hundred to seven hundred DPN (or its equivalent in other scales).

5. With the sample knives, selected, six full blows shall be struck from a height of 250 mm on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades of carving knives shall also be flexible enough so that they do not show any permanent set or damage in usage.

7. Number of knives to be selected for ascertaining the conformity of the lot to the requirements shall be 3% or part thereof, selected at random.

8. The blades shall carry the name of manufacturers, country, etc. etc. Further the blades shall be coated with a suitable mineral Jelly or varnish to protect from rust. Handle shall be smeared with oil. Each of the knives shall then be wrapped in the paper of suitable quality and packed in cartons as per requirements of the buyer.

9. Each carton containing the knives, shall carry the name of the manufacturer, country, description of product etc. etc.

Specification for Cooks Knives

1. The knives shall be manufactured from suitable quality of steel which shall be able to satisfy the tests given in the subsequent clauses. The handles shall be manufactured from seasoned timber.

2. Shapes and dimensions of knives shall be subject to the agreement between buyer and seller. The most common types of knives are cooks knives large and cooks knives small.

3. The knives shall also satisfy the following constructional details:

(a) The blades shall be suitably forged and shall be normalized. The blades shall then be hardened and tempered to give suitable hardness.

(b) Tangs shall be well drawn out and the scales shall fit closely to the tang throughout its length and shall be secured by means of copper/brass/ mild steel rivets.

(c) The handle scales shall be flush with the tang throughout the length.

(d) Blades shall be free from cracks, seams, flaws, scales, pits, burrs and other defects. They shall uniformly tapper towards cutting edge and shall not have chisel edge. Blades shall also be properly ground.

4. Blades shall be well and evenly hardened and tempered to attain a hardness within the range of six hundred to seven hundred DPN (or its equivalent in other scales).

5. With the sample knives, selected, six full blows shall be struck from a height of 250 mm on an aluminium block or on a block of well seasoned timber. The blades shall be struck in such a manner that practically the entire length of the cutting edge hits the surface of the test block. The cutting edge shall not show any sign of distortion after the test nor shall there be any damage to any other part of the blade.

6. The blades of cooks knives, large and small shall also be flexible enough so that they do not show any permanent set or damage in usage.

7. Number of knives to be selected for ascertaining the conformity of the lot to the requirements shall be 3% or part thereof, selected at random.

8. The blades shall carry the name of manufacturer, country, etc. etc. Further, the blades shall be coated with a suitable mineral Jelly or varnish to protect from rust. Handle shall be smeared with oil. Each of the knives shall then be wrapped in the paper of suitable quality and packed in cartons as per requirements of the buyer.

9. Each carton containing knives, shall carry the name of the manufacturer, country, description of product etc. etc.

Specification for Mild Steel Buckets for General use

1. The buckets shall be manufactured from Black sheet or plain galvanised sheet as specified by the purchaser.

2. The thickness of sheet (gauge) to be used for the body and bottom, dimensions and other constructional details shall be subject to the agreement between the buyer and the seller.

3. All parts of the bucket shall be finished smooth and sharp edges rounded off. The buckets shall be free from all constructional defects.

4. Black sheet Buckets shall be hot dip galvanised after manufacture and the galvanising shall be uniform.

5. Each bucket shall be tested for leakage by pressing the dry empty bucket with its top facing upwards down the water vertically. If any water enters the bucket it shall be rejected. The bucket shall then be withdrawn, reversed (with top downwards) and again pressed down the water vertically. Should any air bubble be seen escaping through the water, the bucket shall be deemed to leak and rejected. Alternately, the bucket shall be filled with water to the brim and kept for two hours. It shall not show any sign of leakage.

6. The number of buckets to be selected for carrying out the leakage test for different lot sizes shall be as follows:—

Lot size Dozen	Sample size Number
20 and below	20
21 to 40	30
41 to 100	55
101 to 300	75

7. Each bucket shall carry the name of manufacturer, country of origin, size (It shall be denoted by its diameter at the top) and its capacity.

Specification for Padlocks

1. *Material*

1.1. The locks shall be manufactured from such materials which will ensure safe handling and reasonable life in actual usage. Some of the common materials used for locks and the requirements to be met by them are indicated in the subsequent clauses.

1.2. *Mild Steel.*—The mild steel used in the manufacture of Padlocks shall be such that the finished components, such as that front and back plates, bodies, shackles, rivets, pins and keys shall satisfy the following bend test:

The part when cold shall withstand, without developing cracks, being doubled over either by pressure or by blows from a hammer until the internal radius is equal to the diameter thickness of the part and the sides are parallel.

1.3. *Brass Wire and Phosphor Bronze Wire.*—Brass wire and phosphor bronze wire used in the manufacture of spring shall satisfy the following test:

The lever spring shall be fitted into the lever and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test, the spring shall regain its original position.

1.4. Galvanized Mild Steel Wire-The galvanized mild steel wire used in the manufacture of rivets for galvanized iron padlocks shall satisfy the following test:

"The wire shall withstand, without fracture, coiling round a rod of its own diameter eight times and being uncoiled."

2. *Shape*

2.1. The shape, design and mechanism of locks shall be subject to agreement between the buyer and the seller.

3. *Non-Interchangeability*

3.1. The locks shall be manufactured so as to have non-interchangeable keys in a batch consisting of a minimum of 50 locks. In case non-interchangeability in a larger number is required, it shall be so specified by the purchaser at the time of placing the order.

3.1.1. When a demand for a lessor number of locks than that required for non-interchangeability in accordance with 3.1 is placed, the locks shall be non-interchangeable to the extent of the demand.

4. *Durability*

4.1. All the components of the locks shall be manufactured so as to be durable and safe in handling.

5. *Keys*

5.1. The keys shall be made of mild steel, leaded Tin Bronze and shall be either of the female or male type as specified by the purchaser. The wards shall be evenly cut, clearly defined and free from burrs. The engaging ends of the key wards shall be rounded.

6. *Levers*

6.1. False (Dummy) levers shall not be used. The levers shall work without any appreciable friction or shake on the pivot pin. The holes and slots in the levers shall be free from burrs. A cover plate made of cast brass or sheet brass or mild steel shall also be provided when the levers do not completely fill the whole depth of the body.

7. *Workmanship and Finish*

7.1. All components of the locks and the keys shall be finished smooth to minimise frictional resistance in their working.

7.2. Unless specified otherwise, brass locks and keys shall be finished smooth and given a coat of lacquer. The shackle and key for brass padlocks, shall, however, be finished bright.

8. *Test for Soundness*

8.1. Each padlock when closed shall be held by shackle and five sharp blows shall be given on to a lead block with that side of the padlock on which the shackle is reveted. Now open the padlock and repeat the above test by striking with the opposite side of the padlock.

8.2. During or on completion of the test the padlock shall not show any sign of damage or defective functioning of padlock.

9. *Marking*

9.1. Each lock shall be stamped with the following information:

(a) Manufacturer's name or trade mark;

(b) Number of levers;

(c) Size of lock;

(d) Serial number of the lock; and

(e) Year of supply, if specified by the purchaser.

9.2. The key shall be stamped with the serial number of the lock to which it relates.

10. *Packing*

10.1. Each lock along with the keys shall be wrapped in a thin paper and packed in a cardboard box as per the requirement of the buyer. Each box shall be marked with the following information:

(a) Manufacturer's name or trade mark;

(b) Type of lock,

(c) Size of lock, and

(d) Quantity in the package.

Specification for Copper Utensils

1. The utensils shall be manufactured from copper sheet or strip which is having clean and smooth surface free from black oxide, undue discolouration and scratches. The sheet shall also be free from buckles and sponginess. Further a test piece taken from a sheet shall meet the following bend test:

"The edges of the test piece shall be carefully rounded and smoothed longitudinally. The size of the test piece shall be sufficient to enable the double close-bend test to be carried out. The test piece shall be bent through an angle of 180°, closed and flattened. The double thickness of metal shall then be bent through 180°, closed and flattened; the axis of the second being at right angles to that of the first bend. The material shall show no fracture or signs of cracking on the convex surfaces of the bends."

2. All joints shall be soundly brazed/soldered and a suitable leak test will be carried out on each utensil to ascertain its leakproofness.

3. All joints shall be finished with high degree of smoothness.

4. Thickness of sheet (gauge) to be used for the fabrication of utensils, shape, dimensions and other constructural details shall be subject to agreement between buyer and the seller.

5. All the utensils should be finished smooth and sharp edges rounded off/deburred.

6. Cent per cent visual inspection of all the utensils shall be carried out and those having any defect shall be rejected.

7. Utensils may be tinned/plated, if required by the buyer. Tinning/plating in this case shall be smooth and uniform.

8. Utensils shall be packed as per requirements of the buyer. Otherwise they should be packed to ensure safe arrival of the utensils to the destination without any demage.

9. The sample size for inspection and/or test for the above-mentioned clauses shall be as given below:

Clause No. of the specification	Sample size	No. of defectives permissible
1	10% of the lot	Nil
2	Cent percent	Nil
3	10% of the lot	Nil
4	Do.	Nil
5	25% of the lot	Nil
7	25% of the lot	3% of the lot

Specification for Forks (Table, Fish, Pastry and Serving), Brass, Nickel Silver and Stainless Steel

1. The Forks shall be manufactured from brass or Nickel Silver or Stainless Steel.

2. The most common types of the forks are given below

(a) Table Fork (b) Fish Fork (c) Pastry Fork and (d) Serving Fork.

3. Shapes and dimensions of forks shall be subject to agreement between the buyer and the seller.

4. The forks shall be manufactured in one piece either with solid handle forged or cast with prongs or pressed into shape. The forks may be manufactured also with hollow handle or with plastic handle. The design of the handles shall be as agreed to between the buyer and the seller. When spoons, forks and knives are required to be supplied in sets, the designs on the handle and general appearance of the items in a set shall match.

5. Forks shall also meet with the following constructional details.

(a) The forks with solid or pressed handles shall be made in one piece.

The fish forks with hollow handles shall have the prongs forged and the tangs well drawn. The joints shall be silver soldered in case of Nickel silver hollow handles and welded in case of stainless steel hollow handles. Where the plastic handles are cast, they shall be soundly moulded with the tang in position. The tang shall be properly shaped and grooved.

(c) The forks shall be free from burrs, seams, cracks or other manufacturing defects. All edges shall be well rounded off. The prongs shall be evenly tapered to the point. The shank and plate containing the prongs shall be in good alignment.

(d) The forks may be supplied plated if required by the buyer. In this case the plating shall be uniform.

6. For Bending Test, the fork shall be held rigidly from the extreme end of the shank and supported in the middle of the overall length in such a way that it is approximately horizontal. A load of one kilogram in case of pastry fork and a loan of 1.5 kg. in case of table, fish and serving forks shall then be applied at the extreme end of the prongs for two minutes and then removed. The permanent deflection after removal of load shall not exceed 8 mm.

7. Each form shall be marked with the name of the manufacturer, country, material, etc. etc. Further this information appear in carton containing the forks.

8. The number of the forks to be selected from a lot for ascertaining conformity to the requirements of this specification, shall be as given in the Table.

TABLE FOR SAMPLING

No. of forks in a lot	Sample size	Permissible No. of defectives	Sub-sample-size	Permissible No. of defectives
Upto 50	5	0	2	0
51 to 150	13	1	4	0
151—500	32	3	6	0
501—1000	50	5	8	0
1001—3000	80	7	12	1
3001—10000	125	10	16	1
10001—above	200	14	20	2

Specification for Tower Bolts

1. The tower bolts should be manufactured out of the following materials:
   (a) Mild Steel
   (b) Cast Iron
   (c) Malleable Cast Iron.
   (d) Brass
      (i) Cast Brass
      (ii) Rolled Brass
      (iii) Extruded Brass
   (e) Zinc alloy
   (f) Aluminium alloy.

2. Tower Bolts when manufactured out of mild steel sheets shall conform to the following test:

> "Suitable test pieces of the Milk Steel Sheets when cold shall withstand without fracture, being doubled over, either by pressure or by blows from a hammer until the internal radius is equal to 1½ times the thickness of the test piece and the sides become parallel."

3. *General.*—The tower bolts shall be well made and shall be free from defects. The bolts shall be finished to the correct shape and shall have a smooth action. All screw holes shall be countersunk to suit the countersunk head wood screws. All sharp edges and corners shall be removed and finished smooth.

Barrel and skeleton tower bolts, wherever possible, shall have knob integral with the bolts. In case it is not possible to provide a single piece constructions of bolt, the knob may preferably be fitted to the bolts with a pin or, alternatively, screwed and riveted to the bolts and finished flush. The knob shall be of the same material as the bolt.

Semi-barrel tower bolts shall have integral know which may be round, half-round, spherical or conical, of robust construction as specified by the purchaser.

Barrel Tower Bolts.—Barrel made from sheet shall be properly pressed to shape. Cast barrel shall be free from casting and other surface defects. Mild steel bolt shall be made from mild steel round bar and brass bolt from rolled or drawn brass rod. Extruded sections of aluminium alloy and brass shall be free from defects. Non-ferrous metal tower bolts shall each be provided with a small spring and a ball on the inside of barrel to enable smooth working.

Semi-Barrel Tower Bolts-Mild steel forged bolts shall be made from mild steel round bars forged and finished to shape and polished bright before assembly.

The malleable cast iron and cast iron bolts shall be cast to correct shape and shall be free from casting and other surface defects. Bolts shall be polished bright before assembly. The plates and the straps after assembly shall be firmly riveted.

Skeleton Tower Bolts—The staples and plate in the case of mild steel skeleton tower bolts shall be made from mild steel sheet. The staples and plate of non-ferrous metal shall be free from casting or other defects.

4. Unless otherwise specified, tower bolts shall have finish as given below:

(a) Barrel Tower Bolts.

(1) Mild steel tower bolts—Bolts bright finished or plated as specified by the purchaser and barrel and socket stove enamelled black.

(2) Brass tower bolts—Bolt and barrel polished or plated as specified by the purchaser.

(3) Aluminium alloy tower bolts—Bolt and barrel anodized. The anodic film may be either transparent or dyed as specified by the purchaser.

(4) Zinc alloy tower bolts—Bolt and barrel oxidized, bronzed or plated as specified by the purchaser.

(b) Semi-Barrel Tower Bolts.

Mild steel semi-barrel tower bolts—Both bright finished or plated and other parts stove enamelled black.

(c) Skeleton Tower Bolts.

(1) Mild steel skeleton tower bolts—Bolt bright finished or plated and plate and staples stove enamelled black.

(2) Brass skeleton tower bolts—Bolt, plate and staples bright finished.

(3) Aluminium alloy skeleton tower bolts—Bolt, plate and staples anodized. The anodic film may be either transparent or dyed as specified by the purchaser.

(4) Zinc alloy skeleton tower bolts—Bolt, plate and staples oxidized, bronzed or plated as specified by the purchaser.

5. Each tower bolt shall be clearly marked with the name of manufacturer or trade-mark.

6. Barrel tower bolts shall be suitably packed in cartons. Each carton shall bear a label showing the name of the manufacturer or trade-mark, type, size and quantity of bolts. Aluminium tower bolts shall be individually wrapped with tissue paper or polythene film.

Semi-barrel tower bolts shall be wrapped in strongpaper in bundles each containing 12 bolts only upto 150 mm size and 6 bolts only above 150 mm. Each packet shall bear a label showing the name of the manufacturer or trade-mark type, size and quantity of tower bolts.

Skeleton tower bolts of ferrous metal shall be wrapped in strongpaper in bundles each containing 6 bolts. Skeleton tower bolts of non-ferrous metal shall be suitably packed and the aluminium alloy bolts shall be individually wrapped with tissue paper or polythene film. Each packet or carton shall bear a label showing the name of the manufacturer or trade-mark, type, size and quantity of tower bolts.

7. In any consignment, all the tower bolts of the same type and size and manufactured at the same time, shall be grouped together to constitute a lot.

The number of tower bolts, to be selected from a lot, shall depend upon the size of the lot and shall be in accordance with the table given below:

These tower bolts shall be selected at random from at least 10 per cent of the packets subject to a minimum of three, equal number of tower bolts being selected from each such packet.

SCALE OF SAMPLING AND CRITERION FOR CONFORMITY

Lot-Size N	Sample-Size n	Permissible Number of Defective Tower Bolts
(1)	(2)	(3)
Up to 200	15	0
201 to 300	20	1
301 to 500	30	2
501 to 800	40	2
800 and above	55	3

Specification for Oil Pressure Lanterns

1. The materials used in the manufacture of different parts of oil pressure lantern shall be such that they ensure safe handling and good performance of the pressure lantern throughout its reasonable life.

2. Design, dimensions and construction of lantern should be according to the agreement between the buyer and the seller.

3. Lanterns shall be so constructed so as to satisfy the following:

(a) Those parts of the oil pressure lanterns which are subject to pressure in operation and are fabricated from a material prone to season-cracking shall be stress-relieved to avoid failure through this cause.

(b) Each fuel container fitted with the oil filler cap and burner assembly, but without pressure gauge, shall be snap tested by the manufacturer to a pressure of 2·5 kgf/cm^2. It shall not show any sign of leakage, deformation or damage.

(c) The bottom plate of the fuel lamp shall be securely fixed to the upper portion. The tank shall be so constructed that no permanent distortion takes place under normal conditions of use.

(d) The vaporizer may be straight or L-shaped. The upper and the lower portions of the vaporizer tube shall be joined by means of a union joint. The construction of the Unit shall be such that the parts readily fit into their correct positions. The assembly of the vaporizer shall be such that the fuel vapour is thrown centrally inside the mixing tube.

(e) All machine parts shall be placed from burrs.

(f) The poking rod shall have a sliding fit in the upper part of the vaporizer tube so that the oil goes from oil container to nipple through the coil pipe and not directly upwards.

(g) The non-return valve and the pump washer assembly shall be removable. When specified by the purchaser, pump knob shall be made of non-conducting material.

(h) Mantles shall be strong. They shall not unduly shrink further after the first burning, and shall be capable of withstanding shocks received during normal handling of the lanterns.

(j) The dial shall be graduated to a minimum of 3 kgf/cm^2. A red mark shall indicate the pressure at which the lantern is intended to work, namely, 2 kgf/cm^2.

(k) The fuel container shall be fitted with an effective means for allowing the operator to release the pressure within the container safely and quickly while the lantern is alight. The pressure gauge, oil filler and air release screw may be combined in one.

(l) All washers shall be sufficiently resistant to heat and shall not become tacky and shall be leak-proof. They shall be easily replaceable and shall provide an air-tight joint.

4. One fuel container, without burner, pump valve and pressure gauge, shall be selected at random out of a lot of 500 or part thereof. It shall be subjected to an internal hydraulic pressure of 6 kgf/cm^2 for a period of 5 minutes. The container shall not show any sign of leakage. The container tested for safety pressure shall be further subjected to a hydraulic pressure of 8 kgf/cm^2 it shall neither burst nor unduly distort. Slight leakage of the hydraulic fluid shall, however, be permissible, provided the pressure is capable of being maintained for a duration of not less than five minutes.

5. The mean horizontal luminous intensity of the lantern, when determined by the method described in Appendix to this clause shall be not less than the rated luminous intensity of the lantern given in the candles.

6. The lighting efficiency of lanterns, which is the ratio of the mean horizontal candle power to the weight in grams of fuel consumed per hour, shall be not less than 3 for all sizes of lanterns.

7. The surface temperature of any part of the lantern that may be necessary to touch during its operation shall not exceed 60 degrees C, and shall preferably be lower. The length of the carrying handle shall be such that when a piece of black card, 100 x 50 mm, is held horizontally 25 mm below the top of the handle in still air, the black card shall not attain a temperature exceeding 66 degrees C.

8. The lanterns shall function properly if exposed to a wind of 70 km/h for a period of not less than 30 minutes.

9. The lanterns shall be stamped with their rated luminous intensity in candles; the name of the manufacturer or his registered trade-mark, if any; and the name of the country of orlgin.

10. Each lantern shall be supplied with:

(a) a spirit can,
(b) a spanner,
(c) a nipple,
(d) two cleaning needles,
(e) an oil cap washer,
(f) three mantles,
(g) a needle key,
(h) a pump washer, and
(j) a pamphlet containing manufacturer's instructions for use.

11. Each lantern, with its spares and accessories, shall be packed in a strong cardboard box, the hood being protected by a cardboard ring. For transit 12 such lanterns in carboard boxes shall be packed in a strong wooden case.

12. Sample size for inspection and/or test for different clauses above shall be as follows:

Clause No. of the specification	Sample size	No. of Defectives permissible
3(e)	10%	Nil
3(f)	5%	"
3(g)	3%	"
3(j)	10%	"
3(k)	5%	"
3(l)	5%	"
4	1 in a lot of 500	"
5	2%	"
6	1%	"
7	2%	"
8	2%	"

APPENDIX TO CLAUSE NO. 5

Measurement of mean horizontal luminous intensity

5-1. Photometric Equipment.

5-1.1. The mean horizontal luminous intensity of the lantern shall be measured against a metal filament sub-standard electric lamp, mounted on a standard photometer bench, with a suitable form of photometer head.

5-2. Procedure for measurement.

5-2.1. The fuel container of the lantern shall contain approximately 75 per cent of the amount of fuel held when full, and the glass globe of the lantern shall be cleaned before the commencement of the test.

5-2.2. The lantern shall be lit and allowed to burn at the working pressure of 2 kgf/cm^2 for at least half-an-hour to attain a steady condition.

5-2.3. The lantern shall be monuted on a table fixed in one of the carriages of the photometer bench. The middle portion of the flame, photometer head, and the sub-standard electric lamp, shall be in the same horizontal plane and the photometer head shall be placed perpendicular to the incident light from the flame head. The sub-standard lamp and the photometer head shall be kept fixed at any convenient position on the bench.

5-2.4. The lantern shall be moved to and from one side of the photometer head, until the position of balance is found. Measurement shall be made in a horizontal plane by changing the position of lantern in four directions, at right angle to the axis of the appliance, differing by 90°. A number of readings in each direction shall be taken and the average of all these measurements in the four directions shall be taken as the final value.

5-2.5. The termperature and the relative humidity of the test room shall be reported along with the tests.

Specification for Mild Steel Wire Nails

1. Nails shall be manufactured from mild steel wire. Suitable test pieces when cold shall not break or develop cracks when doubled over, either by pressure or by blows from a hammer, until the internal radius is equal to the diameter of the test piece and the sides are parallel.

2. The nails shall be machine made and may have die-marks on the neck. They shall be uniformly round in section, straight, free from wasters and shall have sharp points. The heads shall be properly formed and concentric with the shank.

3. The dimensions of the different types of wire nails shall satisfy the respective requirements of agreement between the buyer and the seller.

4. Wire nails shall be supplied bright finished, unless otherwise required to be galvanized.

5. Nails of different sizes and types shall be packed in separate containers.

Nails below 25 mm in length shall be packed in cardboard boxes and the net weight of each box shall be 0.5 kg. The nails may also be supplied in gunny bags, metal or wooden casks or cases, or bituminized canvas or hessian bags; the net weight of each bag, cask or case shall be 50 kg.

Nails above 25 mm and below 80 mm in length shall be packed in cardboard boxes and the net of each box shall be 2.5 kg. The nails may also be supplied in gunny bags, metal or wooden casks or cases, bituminized canvas or hessian bags; the net weight of each bag, cask or case shall be 50 kg.

Nails 80 mm and above in length shall be packed in wrappings of double gunny bags, the weight of each package being 15 kg. The nails may also be supplied in metal or wooden casks, cases of bituminized canvas or hessian bags; the net weight of each package shall be 50 kg.

6. All the nails selected as given in the table below shall be examined for manufacturing defects, dimensions and finish.

7. All packages of nails shall be marked with the following information:

(a) Manufacturer's name or trade-mark.

(b) Type and finish of nail.

(c) The size (length and dia. of shank) of nail, and

(d) Net weight of the package.

TABLE: SAMPLE SIZE AND CRITERION FOR CONFORMITY

Number of packages in the lot	Number of Packages to be selected	Number of Nails to be selected from each Package if the length of the Nails is			Permissible No. of Defective Nails if the length of Nails		
		Less than 25mm	25mm to 80mm	80mm & above	Less than 25mm	25mm to 80mm	80mm & above
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2 to 8	2	25	10	5	4	2	1
9 to 15	3	25	10	5	6	3	1
16 to 25	4	25	10	5	7	3	2
26 to 40	5	25	10	5	9	4	2
41 to 65	7	25	10	5	11	6	3
66 and above	10	25	10	5	15	7	4

NOTE.—The sampling plan given here is such that lots with 4 per cent or less defectives would be accepted most of the time.

Specification for M.S. Sliding Door Bolts for use with Padlocks

1. Sliding door bolts shall be manufactured from mild steel which meets with following requirement.

'for sheets and plates, suitable test pieces when cold shall withstand without fracture being doubled over either by pressure or blows from a hammer until the internal dia is equal to three times the thickness of the test piece and the sides become parallel. In case of rods the internal dia of the bend of the test piece shall not be greater than twice the dia of the rod.

2. Dimensions, shape, design and tolerances shall be subject to agreement between buyers and the sellers. The common types of sliding door bolts are—

(a) plate type sliding bolts and (b) clip or bolt type sliding bolts.

3. The sliding door bolts shall have smooth sliding action. All screw holes shall be countersunk to suit the suitable countersunk head wood screws. All sharp edges and corners shall be rounded off.

4. In case of plate type sliding bolts, the bolt plate, straps and staple plate shall be stove-enamelled black before assembling. Hasp and bolt shall be finished bright or plated as specified by the purchaser. And in case of clip or Bolt type sliding bolts, Hasp, bolt, staple and clips or fixing bolts shall be oxidized or plated as specified by the purchaser.

5. The sliding door bolt shall be marked with the name of the manufacturer, country, etc., sliding door bolts shall be wrapped in strong paper and shall be suitably packed in bundles or cardboard boxes. The label applied to the box shall carry the necessary information like the name of the manufacturer, country, size, etc., etc.

6. The number of door bolts to be selected from each lot for ascertaining its conformity to the requirements specified, shall be as given in the table below. In any consignment, all the door bolts of the same type and size shal be grouped together to constitute a lot.

TABLE FOR SAMPLING

Lot size	Sample Size	Permissible number of defective door bolts
Upto 200	15	0
201 to 300	20	1
301 to 500	30	2
501 to 800	40	2
801 and above	55	3

Specification for Umbrellas

1. This standard covers the requirements for complete umbrellas.

2. The main ribs and the stretcher ribs of the umbrellas shall be riveted in such a way that the movement is free but without shake or play.

3. The notch shall be rigidly and firmly fixed on the tube or stick. The ribs shall be fastened on the notch by means of brass, copper or galvanized wire so that ribs have no undue play or shake. The ends of the wire shall turned in so that they do not touch the cloth of the umbrella.

4. The stretcher ribs shall be firmly attached to the runner, by means of brass, copper or galvanized wire. The runner shall be capable of being held at the top and lower springs in the opened and closed positions of the umbrella, except in the case of umbrellas with flexus ribs where the lower spring is not provided.

5. The cloth shall be suitably cut in panels and firmly stitched together by strong sewing thread and of fast colour matching the shade of the cloth. The cloth shall be strengthened at the junction of the main and the stretcher ribs, that is, over the clip on the main rib. The cloth shall also be strengthened at the top above the notch. In addition, a leather or waterproof washer shall be fitted over the cloth under the cap. The cloth shall be stitched firmly to the holes at the ends of the ribs and also suitably stitched at the junction of the main ribs and stretcher ribs. The seams shall not yield or bulge when the umbrella is opened. The cloth shall not be slack or show any other defect when the umbrella is fully opened. The stitching thread shall not be visible on the outer surface.

6. The cap shall be firmly fixed so as to prevent rain water to soak round the tube or the stick.

7. The ferrule shall be fixed firmly at the end of the stick.

8. The assembly of the cup on the handle shall be such that the cup is able to hold the ball ends of the main ribs in position when the umbrella is in closed position. The cup shall be such as to just allow the rib ends to be released, when it is pulled to its extreme position.

9. For ladies umbrellas, a suitable cord shall be provided on the handle.

10. The umbrella shall be capable of being opened and closed smoothly without the runner becoming stuck. When opened, the umbrella shall have a symmetrical shape.

11. The umrella cloth shall be provided with a suitable band with a ring and a tutton to be wrapped round when closed.

12. Either in the opened or closed position, each umbrella shall have a good and uniform shape. After opening and closing the umbrella for 50 times, the ribs shall not show any deformation and the cloth shall not show any signs of

opening or shakiness. In the case of flexus ribs, the umbrella shall close automatically when released from the open position.

13. Umbrellas shall be subjected to a pull of 10 kgf on the handle. The handle should not break or detached from the tube.

14. Each umbrella shall bear the maker's name, initials or trade mark on the inside of the cloth. The size of the umbrella may also be marked, if desired by the purchaser. The umbrella may be marked 'waterproofed', if it is so and certified.

15. Umbrellas shall be wrapped preferably in craft paper made into a suitable cone. When required to be packed for transit, a suitable number of umbrellas shall be packed in a wooden case and the case shall be bound by wire or hoops.

16. The numbers of umrellas to be selected from a lot for ascertaining conformity to this specification is given in the Table below.

TABLE : SAMPLE SIZE AND CRITERIA FOR CONFORMITY

No. of umbrellas in the lot	Sample size (No. of umbrellas to be selected)	No. of defectives permissible
(1)	(2)	(3)
Up to 100	13	1
101 to 150	20	1
151 to 300	32	2
301 to 500	50	3
501 to 1000	80	5
1001 to 3000	125	7
3001 and above	200	10

Specification for Mortice Locks (vertical type).

1. *Material.*

1.1. The locks shall be manufactured from such materials which will ensure safe handling and reasonable life in actual usage. Some of the common raw materials used in the manufacture of locks are—

Mild steel, Cast Brass, Brass Sheet, Phosphor Bronze, Steel Wire, Steel plate spring, leaded Tin Bronze, Aluminium alloy castings, Aluminium sheets etc., etc.

2. *Shape.*

2.1. The shape, design, dimensions and mechanism of locks shall be subject to agreement between buyer and seller.

3. *Non-Interchangeability.*

3.1. The Mortice locks shall be manufactured so as to have non-interchangeable keys in a batch consisting of a minimum of 60 locks. In case non-interchangeability in a larger number is required, it shall be so specified by the buyer at the time of placing the order. A master key may be supplied if required by the buyer.

4. *Keys.*

4.1. Each lock shall be provided with two male keys. Each key shall be forged from solid mild steel section, leaded tin bronze or stainless steel. The wards of the key shall be fully cut out to varying combinations, clearly defined and free from burrs. The engaging wards of key shall be rounded. The key shall function smoothly and without any appreciable friction in the lock.

5. *Tests.*

The final assembly of the lock shall withstand the following tests:

5.1. With the locking bolt locked in the forward position, a load as agreed to between the buyer and seller shall be applied on the end of the locking bolt. The locking bolt shall not go in the lock body by more than 12½ per cent of total projection.

5.2. When the spindle with handle is inserted into hole in the follower and turned, the latch bolt shall draw smoothly into the lock body and shall be within one mm. from the face of the foreend.

5.3. When the latch bolt is pressed into the lock body by pressure, the action shall be smooth and when fully pressed the latch bolt shall not project more than one mm. from the face of the end.

5.4. When a key is inserted in the key hole from one side of the lock and turned to withdraw the locking bolt, the action shall be smooth and without impediment. When the direction of turn is reversed to lock the locking bolt, then also the action shall be smooth and without impediment. In the locked position the locking bolt shall project 12 mm. from the face of the foreend, although one mm. free movement is permissible. In the withdrawn position the locking bolt shall not project more than one mm. from the face of the foreend. The locking bolt shall be worked by turning key in both directions several times quickly. The purpose of this test is to check up that the components do not move from their normal position to cause impediment to others. This test shall be repeated with the key inserted from other side of the lock.

5.5. When the key is turned to lock the locking bolt at the same time applying a reasonable pressure by finger on it, after completion of the key rotation, the locking bolt shall be positively locked in the forward position. This test shall be repeated with the key inserted from the other side of the lock.

6. Brass body shall be finished smooth. Steel body shall be given a suitable protective coating such as painting. Face plate and striking plate shall be finished smooth and polished bright. Where so desired by the buyer, face plate and striking plate may also be plated, anodized or oxidized.

7. *Marking.*

7.1. Each lock shall be stamped with the following information:

(a) Manufacturer's name or trade-mark;
(b) Number of levers;
(c) Size of lock;
(d) Serial number of the lock;
(e) Year of supply, if specified by the purchaser, and
(f) Country of origin.

7.2. The key shall be stamped with the serial number of the lock to which it relates.

8. *Packing.*

8.1. Each lock along with the keys shall be wrapped in a thin paper and packed in a cardboard box as per the requirement of the buyer. Each box shall be marked with the following information—

(a) Manufacturer's name or trade-mark,
(b) Type of lock,
(c) Size of lock,
(d) Quantity in the package, and
(e) Country of origin.

Specification for Scissors.

1. Material for scissors shall be as below:

(a) Blades complete with handle or blades only.—High Carbon Steel.
(b) Handles when welded or rivetted to blades made of High Carbon Steel.—Mild Steel or Cast Brass or Malleable Iron.
(c) Fasteners.—Mild Steel,

2. Shapes and dimensions shall conform to the requirements as agreed to between the buyer and the seller.

3. All forging welding and rivetting shall be sound. All joints shall be rigid and not loose. The rivets shall be filed and made flush.

4. Scissors shall be properly hollow-ground with the cutting edge true and adjusted for smooth operation. The blades shall be heat treated so as to give their cutting edges a hardness ranging from 600 to 700 DPN (or its equivalent in other scales). The test point shall be as near as possible but not more than 13 mm from the cutting edge.

5. In case of scissors having screws as fasteners one blade shall be tapped to engage the screw. The threads shall be full and true. The other blade shall be counterbored to accommodate the head of the screw or bolt. After assembly, the ends of the shanks of fasteners shall be neatly burred over.

6. The scissors shall be free from cracks, seams, burrs, flaws, and other defects. They shall be finished smooth and the exposed surface shall be either plated uniformly or highly polished to prevent them from rusting. Screws and nuts wherever used shall be plated uniformly.

7. When plated, the plated surface shall be polished bright and shall be free from visible plating defects, such as blisters, pits, unplated spots, cloudy pits, cracks or stains. The plating shall adhere firmly to the base metal (see 10) and shall be non-porous.

8. Tests shall be carried out on scissors at the rate of 3 per cent or part thereof of the lot.

9. Scissors shall work freely without any undue play or stiffness. The cutting edges of the blades shall not over-ride. Scissors shall be supplied sharpened ready for use.

10. Each pair of scissors shall be tested by cutting a piece of silk (weighing not less than 61 gm. per sq. meter) or cambric cloth, which shall not be kept taut during the test. In doing so the scissors shall be opened as wide as possible and then gradually brought to the closed position. The scissors shall cut the cloth neatly without drag or pull from pinch to tip and the cut portion of the cloth shall fall freely from the cutting edge.

11. An area of not more than 6 5 sq. cm. of the plated surface selected at the discretion of the inspector, shall be rubbed rapidly and firmly for 15 seconds with a smooth metal implement. A suitable burnishing implement is a copper disc (*e.g.* a copper coin) used edgewise, and broadside. The pressure shall be sufficient to burnish the film of plating at every stroke, but not so great as to cut the deposit. The burnished area shall then be visually examined. The adhesion of the plating shall be deemed adequate if there is no indication of the deposit becoming detached from the basis metal.

12. Cutting edges and unplated portions of the scissors shall be lightly smeared with mineral jelly.

13. Unless specified otherwise, each pair of scissors shall be wrapped in moisture proof paper and packed in cardboard boxes for ¼ dozen, ½ dozen or one dozen scissors. Cardboard boxes shall be labelled on one end to indicate the size of the scissors and the name or trade mark of the manufacturer and the country of origin.

Specification for wire Gauge for General Purposes.

1. Wire gauge shall be manufactured from a wire made of annealed brass or bronze, or galvanized mild steel wire. The wire used shall be clearly drawn free from scales, inequalities, splits and soft spots and sall be of uniform ductility.

2. The gauge shall be rekularly woven with an equal number of equally spaced parallel wires in both warp and weft directions to produce uniform square meshes or openings. Both warp and weft wires shall be properly crimped to prevent shifting of the wires and to produce an even surface of the gauge without any distortion when finished. The wire gauge shall be properly selvedged by one or more wires in each edge.

3. The dimensions of wire gauge shall nomally be as given below in the table. Gauge with other dimensions can however be produced subject to agreement between buyer and seller.

TABLE 1 DIMENSIONS OF WIRE GAUGE FOR GENERAL PURPOSES

(Clauses 5·1 & 5·2)

Gauge Designation	Average width of Aperture	Nominal Diameter of wire		Remarks
		mm	Near SWG	
160G	1·60	0·950	19½	Suitable for fly-proof screens suitable for mosquito-proof screens.
140G	1·40	0·710	22	
120G	1·20	0·600	23	
100G	1·00	0·600	23	
85G	0·84	0·560	24	
80G	0·79	0·530	24½	
70G	0·71	0·450	26	
60G	0·59	0·425	27	
50G	0·50	0·355	29	
40G	0·42	0·280	31½	

NOTE.—Wire gauge No. 160 G to 70 G may be made from galvanized mild steel wire, brass wire or bronze wire as specified by the purchaser. For gauge No. 60 G, 50 G. and 40 G. either bronze wire or brass wire, as specified by the purchaser. shall be used.

4. The wire gauge shall be wrapped in suitable rust preventing material and thereafter packed as per the instructions of the buyer. Each package shall be clearly marked with the following details.

(a) Manufacturer's name.

(b) width × length.

(c) gauge designation and diamater of wire used and

(d) country of origin.

Specification for Table Knives, Desert Knives and Fruit Knives.

1. The blades of knives shall be manufactured from stainless steel and handles from stainless steel or nickel silver or plastic.

2. The stainless steel knives may be supplied with—

(a) stainless steel solid handle forged with blade,

(b) stainless steel or nickel silver hollow handle, or

(c) plastic handle.

3. The shape and dimension of knives shall be subject to agreement between the buyer and the seller.

The design of the handles of the knives shall be as agreed between the buyer and the seller. When spoons forks and knives are required to be supplied in sets the design of the handles and general appearance of the items in a set shall match.

4. Knives shall also meet with the following construction-details:—

(a) knives with solid handles shall be forged in one piece,

(b) knives with hollow handles shall have the blades forged and the tangs well drawn. The scales shall fit closely to the tang and shall be finished flush smooth. In case of hollow handles made of stainless steel, the joints shall be welded and in other cases soldered.

(c) in case of cast plastic handles, they shall be moulded with the tang in position. The tang shall be properly shaped and grooved,

(d) the blades shall be properly ground and all sharp edges rounded off. The cutting edge shall be sharp and ready for use. These shall be evently bardened and tempered.

5. The knives shall be free from cracks, seams, flaws, scales, pits, burrs, rough grind marks and other defects. The blade and handles shall be in good alignment so that when placed on the table, the blades shall not touch the surface of the table.

6. If required by the purchaser the hollow handles made of Nickel silver may be plated and in this case plating shall be uniform.

7. When tasted for hardness, it shall not be less than 47 HRC (Rockwell Hardness Test B and C scales). The readings shall be taken along the centre line of the blade to within 25 mm. of the bolster.

8. The cutting edge of the knife shall be made to strike three full blows in succession from a height of 200 mm. on an aluminium block or a block of teakwood. The cutting edge shall not show any sign of damage.

9. The blades shall be bent to lie on the periphery of wooden block segment of 100 mm. radius and at least 22 mm. in thickness. The blade shall not show any permanent set or damage on completion of the test.

10. The surface of the blade shall be wiped thoroughly with hot water using a soft cloth. The blade shall not show any sign of corrosion when it is immersed in a 5 per cent solution of acetic acid for a period of not less than 12 hours.

11. The number of knives to be selected from a lot for ascertaining conformity to this specification shall be as given in the table below.

12. Each knife shall carry the name of the manufacturer, the country of origin, etc. Each knife shall be wrapped in soft tissue paper of wax paper and packed in cartons.

13. Each carton shall bear the manufacturer's name or trade-mark, description of contents and number of knives it contains.

TABLE WITH REFERENCE OF CLAUSE (11)

Clause No. of the specification	Sample size	No. of Defectives permissible
4	10% of the lot	Nil
5		
6		
7	Do.	Do.
8		
9		
10	5% of the lot	Do.

Specification for Hinges

1. Hinges shall be well made, free from burrs, flaws and defects of any kind. The movement shall be square, and the working shall be free and easy without any play or shake. The hole for the hinge pin shall be central to the boss and shall be square. The hinge pin shall be firm and riveted over, so that the heads are well formed. All screw holes shall be taken and countersunk and shall be suitable for the countersunk wood screws.

2. Each hinge shall be stamped with the manufacturer's trade-mark, name or initials.

3. Hinges shall be packed in carboard boxes or in other approved packing in bundles of 20 or 24 for sizes up to and including 125 mm. and in bundles of 6 or 10 for sizes 150 mm. and above. The hinges having bright finish shall be packed in waxed paper after applying anticorrosive grease or oils. Each package shall be labelled showing the following particulars:—

(a) Type of hinge,

(b) Size of hinge,

(c) Quantity of hinges, and

(d) Name of manufacturer or trade-mark.

4. In any consignment, all the hinges of the same tpye and size and manufactured at the same time shall be grouped together to constitute a lot.

The number of hinges to be selected from the lot shall depend on the size of the lot and shall be in accordance with cols. 1 and 2 of Table below. These hinges shall be selected at random from at least 10 per cent of the packages subject to a minimum of three, equal number of hinges being selected from each such package.

5. All hinges selected as in 4 shall be checked for defects in manufacture and finish. Any hinge which fails to satisfy the requirements of any one or more of the characteristics shall be considered as a defective hinge.

TABLE : SCALE OF SAMPOLING AND CRITERION FOR CONFORMITY

Lot size (1)	Sample Size (2)	Permissible Number of defective Hinges (3)
Upto 200	15	0
201 to 300	20	1
301 to 500	30	2
501 to 800	40	2
801 and above	55	3

NOTE.—The sampling plan given here is such that lots with 1·5 per cent or less defectives will be accepted most of the times.

Specification for Spoons, Stainless Steel, Brass and Nickel Silver.

1. The spoons shall be manufactured from brass or nickel silver.

2. The spoons may be of the following type:—

(a) Serving spoon, large
(b) Serving spoon
(c) Dessert spoon
(d) Tea spoon
(e) Coffee spoon
(f) Soup spoon
(g) Mustard spoon
(h) Salt spoon

3. The shape and dimensions of spoons shall be subject to agreement between buyer and seller.

4. Spoons shall also meet with the following constructural details:

(a) The design of the handles of spoons shall be as agreed to between the buyer and seller. When spoons, forks and knives are required to be supplied in sets, the design of the handles and the general appearance of the items in a set shall match.

(b) The spoons shall be forged or cast to shape in one piece. The forged spoon shall have a solid handle and the pressed spoons shall have a pressed handle.

(c) The spoons shall be free from burrs, seams, cracks or other manufacturing and surface defects. All edges shall be well rounded off.

(d) The handle and bowl shall be in good alignment.

(e) Spoons may be supplied plated if so required by the buyer and the plating shall be uniform.

5. For bending test—the spoon shall be held rigidly from the extreme end of the shank and supported in the middle of the overall length in such a way that is approximately horizontal.

A load as given in the table below shall then be applied at the extreme end of the bowl for two minutes and then removed. The permanent deflection shall be measured after removal of the load. It shall not exceed the values given in the table.

Type of spoon	Solid handle spoons		Pressed handle spoons	
	Load kg.	Permanent deflection mm	Load kg.	Permanent deflection mm
Serving spoon, large	2·5	8	1·5	8
Serving spoon	1·5	8	0·8	8
Dessert spoon	1·5	8	0·8	8
Tea spoon	1·0	8	0·4	5
Coffee spoon	1·0	8	0·4	5
Soup spoon	1·5	8	0·8	8
Mustard spoon	1·0	8	0·4	5
Salt spoon	1·0	8	0·4	5

6. Each spoon shall be marked with the name of the manufacturer, country of origin etc., etc.

7. The number of spoons to be selected from a lot for ascertaining conformity to this specification shall be as given in the table below.

SCALE OF SAMPLING AND PERMISSIBLE NUMBER OF DEFECTIVES

No. of spoons in a Lot	For Clauses 3 and 4(a)		For Clauses 4(c) and 5	
	Sample Size	Permissible Number of Defective Spoons	Sub-sample size	Permissible No. of Defective Spoons
(1)	(2)	(3)	(4)	(5)
Up to 50	5	0	2	0
51 to 150	13	1	4	0
151 to 500	32	3	6	0
501 to 1000	50	5	8	0
1001 to 3000	80	7	12	1
3001 to 10000	125	10	16	1
10001 & above	200	14	20	2

8. Each cartoon containing the spoons shall carry the name of manufacturer, country of origin and description of product etc., etc.

Specification for Drawer Locks, Cupboard Locks and Box Locks

1. *Material*

1.1. The locks shall be manufactured from such materials which will ensure safe handling and reasonable life in actual usage. Some of the common materials used for locks and the requirements to be met by them are indicated in the subsequent clauses.

1.2. *Mild Steel.*—Mild steel bar used in the manufacture of keys and pins shall satisfy the following bend test:

The bar when cold shall withstand, without developing cracks, being doubled over either by pressure or by blows from a hammer until the internal radius is equal to the diameter of the bar and the sides are parallel.

1.3. *Brass Wire and Phosphor Bronze Wire.*—Brass wire and phosphor bronze wire used in the manufacture of spring shall satisfy the following test:

The lever spring shall be fitted into the lever and shall be pressed down so as to touch the top edge of the lever and released. This shall be repeated six times. At the end of the test, the spring shall regain its original position.

2. *Shape*

2.1. The shape, design, dimensions and mechanism of locks shall be subject to agreement between he buyer and the seller.

3. *Non-Interchangeability*

3.1. The locks shall be manufactured so as to have non-interchangeable keys in a batch consisting of a minimum of 100 locks. In case non-interchangeability a larger number is required, it shall be so specified by the purchaser at the time of placing the order.

3.2. When a demand for a lesser number of locks than that required for non-interchangeability in accordance with 3.1 is placed, the locks shall be non-interchangeable to the extent of the demand.

4. *Keys*

4.1. The keys shall be made of mild steel, leaded Tin Bronze and shall be either of the female or male type as spescifled by he purchaser. All mechanised parts shall be free from burrs. The wards shall be evenly cut and clearly defined. The engaging ends of the key wards shall be rounded.

5. *Levers*

5.1. False (Dummy) levers shall not be used. The levers shall work without any appreciable friction or shake on the pivot pin. The holes and slots in the levers shall be free from burrs. A cover plate made of cast brass or sheet brass shall also be provided when the levers do not completely fill the whole depth of the body.

6. *Workmanship and Finish*

6.1. All components of the locks and the keys shall be finished smooth to minimise frictional resistance in their working.

6.2. Unless specified otherwise, brass locks and keys shall be finished bright and aluminium alloy locks shall be anodized. The anodic film may be either transparent or dyed as specified by the purchaser.

7. *Marking*

7.1. Each lock shall be stamped with the following information:

(a) Manufacturer's name or trade-mark;
(b) Number of levers;
(c) Size of lock;
(d) Serial number of the lock;
(e) Year of supply, if specified by the purchaser, and
(f) Country of origin.

7.2. The key shall be stamped with the serial number of the lock to which it relates.

8. *Packing*

8.1. Each lock along with the keys shall be wrapped in a thin paper and packed in a cardboard box as per the requirement of the buyer. Each box shall be marked with the following information:

(a) Manufacturer's name or trade-mark,
(b) Type of lock,
(c) Size of lock, and
(d) Quantity in the package.

9. *Sampling Size*

9.1. 10 per cent of the lot presented for inspection shall be drawn for necessary inspection and/or testing.

9.2. No defective out of the sample is permissible.

Specification for galvanised steel barbed wire for fencing

1. The barbed wire shall be manufactured from galvanised steel wire having uniform zinc coating.

2. Size and type of wire shall be subject to agreement between the buyer and seller.

3. The barbs shall carry four points and shall be formed by twisting two point wires, each two turns, tightly round one line wire, making altogether four complete turns. The barbs shall be so finished that the four points are set and locked at right angles to each other. The points shall be sharp. The length of the barbs should be as agreed to between the buyer and the seller.

4. The line and point wires shall be circular in section, free from scale and other defects and shall be uniformly galvanised. The line wire shall be in continuous lengths, and shall not contain any welds other than those in the rod before it is drawn.

5. The line wire shall not show any sign of flaking or pealing of its zinc coating when coiled round a cylindrical bar of approximate diameter given below as an example.

Size of wire	*Diameter of Mandrel*
mm.	mm.
2.50	25
2.24	25

6. The line wire shall withstand wrapping and unwrapping eight turns round its own diameter, without fracture.

7. Every reel of barbed wire shall be marked legibly on it the name of the manufacturer, country of origin, diameters of the line and point wires, bar spacing and length and weight of the reel. Unless otherwise agreed to between the supplier and the purchaser, the barbed wire shall be supplied in metal or wooden reels. Each reel of barbed wire shall be wound and fastened compactly.

8. *Sampling Size*

8.1. 5 per cent of the lot presented for inspection shall be drawn for necessary inspection and/or testing.

8.2. No defective out of the sample is permissible.

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S. HAMID, Jt. Secy.

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